the relevant component parts as *working parts*. Although the goal is to find working parts, it is possible to decompose a system structurally independently of actually being able to determine the operations the various components perform. This involves, for example, appraising that component structures are likely to be distinct working parts on other grounds.

Let's begin with interventions that are designed to identify the parts of a mechanism. One way is to apply enough force that it breaks down into separate components that can then be further investigated as potential working parts. Deciding what counts as "enough" force is a challenge. Some ways of applying force will completely obliterate the components of interest – those that perform the operations within the mechanism. One could, for example, cut a brain into tiny cubes or homogenize a cell in a Waring blender. This is not problematic if the units of interest are at a sufficiently small scale (individual neurons or ganglia in the brain or individual enzymes in the cell) to survive intact. If the task of interest relies on larger units (brain regions or cell organelles), the intervention will have destroyed the working parts. There is a further challenge, though. Assuming that a researcher has arrived at a method that delivers the right amount of force to get parts of about the right size, how would she know whether these are the parts that divide the system at its *joints*? Consider performing an anatomical dissection. How does the anatomist know whether she has dissected out a working part (cut at the joints) or has cut within a part? Sometimes components (e.g., organs such as the heart, liver, and pancreas) exhibit clear boundaries and integrity. This does not entail that they are functionally relevant units, but it provides a good clue.

Physical separation is not the only possible strategy. In some fields researchers have a means of viewing internal components. Cytologists, for example, were able to distinguish cells as parts of organs, and nuclei as parts of cells, using the light microscope and smaller parts using the electron microscope. In Chapter 4 I will discuss the epistemic challenge in determining whether such visualizations are reliable. For now what is important to note is that visualization provided a partitioning based on appearance that was useful for many purposes, but needed to be corroborated by other methods to confirm correspondence to working parts. The history of attempts to identify working parts in the brain illustrates the challenge (Mundale, 1998). In highly convoluted brains such as the human brain, the existence of sulci and gyri seemed to provide natural boundaries between regions of cortex. Although these are still used as reference points in locating regions in the brain, it is now recognized that the process of folding that gives rise to sulci and gyri does not respect function as much as expected. Hence, other evidence is needed to identify the working parts. Brodmann (1909/1994) as well as several other